


Amendment to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

1-5. (Canceled).

1  (Original) A vertical junction field effect transistor comprising:

a drain semiconductor portion;

a drift semiconductor portion placed on a principal surface of the drain semiconductor portion and having first to fifth regions extending in a predetermined axial direction intersecting with a reference plane extending along the principal surface;

a buried semiconductor portion having a conductivity type opposite to a conductivity type of the drift semiconductor portion and placed along the reference plane on the first to fourth regions of the drift semiconductor portion;

a plurality of gate semiconductor portions placed along the reference plane on the second to fourth regions of the drift semiconductor portion and having the same conductivity type as the conductivity type of the buried semiconductor portion;

a channel semiconductor portion placed between the buried semiconductor portion and the plurality of gate semiconductor portions, and between the plurality of gate semiconductor

portions, and having the conductivity type opposite to the conductivity type of the buried semiconductor portion;

a connection semiconductor portion having the same conductivity type as the conductivity type of the channel semiconductor portion and connecting the plurality of gate semiconductor portions;

a first aggregate semiconductor portion connecting the channel semiconductor portion on the first region of the drift semiconductor portion;

a second aggregate semiconductor portion connecting the channel semiconductor portion on the fifth region of the drift semiconductor portion; and

a source semiconductor portion placed above the first region of the drift semiconductor portion and connected to the first aggregate semiconductor portion;

wherein the drift semiconductor portion has a sixth region provided on a principal surface thereof and extending in the direction intersecting with the principal surface,

the transistor further comprising a third connection semiconductor portion having a conductivity type opposite to a conductivity type of the drain semiconductor portion and placed above the sixth region,

wherein the third connection semiconductor portion is placed along the first aggregate semiconductor portion.

2 ~~7~~ (Currently amended) The vertical junction field effect transistor according to ~~any one of claims 1 to 4~~ claim ~~6~~¹, wherein a thickness of the gate semiconductor portion and the channel semiconductor portion is smaller than a space between the source semiconductor portion and the buried semiconductor portion on the first region of the drift semiconductor portion.

3 ~~8~~ (Currently amended) The vertical junction field effect transistor according to claim ~~5 or ~~6~~¹~~, wherein a thickness of the gate semiconductor portions and the channel semiconductor portion on the second to fourth regions of the drift semiconductor portion is smaller than a space between the source semiconductor portion and the buried semiconductor portion on the first region of the drift semiconductor portion.

9-10. (Canceled).

4 ~~11~~ (Currently amended) The vertical junction field effect transistor according to any one of claims ~~5 to ~~6~~¹ or ~~7~~²~~, wherein a space between the gate semiconductor portions, and a space between the gate semiconductor portions and the buried semiconductor portion are determined so that the vertical junction field effect transistor can exhibit the normally-off characteristic.

12. (Canceled).

5 ~~13~~. (Currently amended) The vertical junction field effect transistor according to ~~any one of claim[[s]] 1 to 11~~ 6, wherein the drift semiconductor portion has:

an electroconductive semiconductor region extending along a reference plane intersecting with the principal surface of the drain semiconductor portion, having the same conductivity type as the conductivity type of the drain semiconductor portion, and electrically connected to the channel semiconductor portion; and

a non-electroconductive semiconductor region placed next to the electroconductive semiconductor region, having the conductivity type opposite to the conductivity type of the drain semiconductor portion, and electrically connected to the buried semiconductor portion; and

wherein the electroconductive semiconductor region and the non-electroconductive semiconductor region are formed in the same direction as a direction in which the first to fourth regions of the drift semiconductor portion are arranged.

6 ~~14~~. (Currently amended) The vertical junction field effect transistor according to ~~any one of claim[[s]] 1 to 11~~ 6, wherein the drift semiconductor portion has:

an electroconductive semiconductor region extending along a reference plane intersecting with the principal surface of the drain semiconductor portion, having the same conductivity type as the conductivity type of the drain semiconductor portion, and electrically connected to the channel semiconductor portion; and

a non-electroconductive semiconductor region placed next to the electroconductive semiconductor region, having the conductivity type opposite to the conductivity type of the drain semiconductor portion, and electrically connected to the buried semiconductor portion; and

wherein the electroconductive semiconductor region and the non-electroconductive semiconductor region are formed in a direction intersecting with a direction in which the first to fourth regions of the drift semiconductor portion are arranged.

7 ~~15.~~ (Currently amended) The vertical junction field effect transistor according to any one of claims ~~1 to 14~~ ¹ ~~5~~ to ³ ~~8~~, wherein the drain semiconductor portion, the drift semiconductor portion, the buried semiconductor portion, the gate semiconductor portion; the channel semiconductor portion, the connection semiconductor portion, and the source semiconductor portion are made of SiC or GaN which is a wide-gap semiconductor material.

16-32. (Canceled).

8 ~~33~~. (Original) The vertical junction field effect transistor according to claim ~~8~~¹, wherein the first gate semiconductor portion and the source semiconductor portion are electrically connected by the source electrode, to a peripheral portion of a primitive cell or chip comprised of a plurality of transistors.

34-36. (Canceled).

9 ~~37~~. (Currently amended) The vertical junction field effect transistor according to any one of claims ~~27 to~~ ~~[[36]]~~ ~~33~~⁸, wherein the channel semiconductor portion has a structure in which low-concentration layers and high-concentration layers are alternately stacked.

38-47. (Canceled).